

REMARKS

Claims 1-14 are pending in this application. By this Amendment, claims 1 and 7 are amended. No new matter is added. Reconsideration in view of the above amendments and following remarks is respectfully requested.

I. Information Disclosure Statement

An Information Disclosure Statement PTO Form 1449 was filed on January 15, 2002 submitting JP-A-11-58704 for consideration. However, the Examiner has not yet returned a initialed copy of the PTO Form 1449. Applicant respectfully request the Examiner return an initialed copy of the 1449 Form indicating consideration of the reference cited therein.

II. Claim 1 Satisfies The Requirements of 35 U.S.C. §112, Second Paragraph

Claim 1 is rejected under 35 U.S.C. §112, second paragraph as incomplete for omitting essential elements. Accordingly, claim 1 is amended. Withdraw of the rejection of claim 1 under 35 U.S.C. §112, second paragraph is respectfully requested.

III. The Claims Define Allowable Subject Matter

The Office Action rejects claims 1-12 under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 6,210,245 to Sando et al. in view of U.S. Patent No. 5,157,411 to Takeoshi et al. This rejection is respectfully traversed.

The applied art does not teach, disclose or suggest a drive controller to regulate discharge quantity and flight speed of the liquid discharge from the nozzles for each nozzle group by voltage level applied to piezoelectric elements corresponding to the nozzles where the drive controller determines a waveform for each nozzle group thought to exhibit a mutually similar discharge trend among the nozzle groups, as claimed in claim 1 and similarly claimed in claim 7.

Additionally, the applied art does not teach, disclose or even suggest that at least two or more of the groups have a voltage level which is applied to the piezoelectric elements that is different, as claimed in claims 13 and 14.

Sando does not disclose the features of the claims discussed above. That is, the voltage of the driving pulse is adjusted for each nozzle so that the delivery amount of the nozzles adjacent are the same. However, Sando does not disclose at least the drive controller. Takeoshi does not make up the deficiency of Sando discussed above. Takeoshi regulates the discharge quantity by pulse-width. Takeoshi uses a single voltage level.

The features recited in the claims discussed above provide the advantage of adequately suppressing variation in discharge quantity of nozzle groups positioned in different distances from the supply port, as disclosed in the specification, for example, page 14 and 15 of the specification. As such, group-by-group regulation, without deriving compensation quantities for each individual nozzle, a simple configuration can be realized. The applied art does not disclose the features of the claims discussed above and therefore can not at least provide the advantages of the claimed invention discussed above.

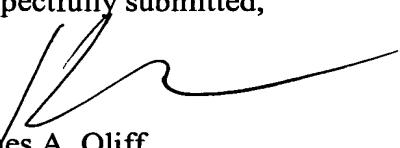
For at least the reasons discussed above, Applicant respectfully submits that the applied art does not disclose all of the features recited in independent claims 1 and 7. Thus, the applied art does not render the obvious the subject matter of claims 1 and 7. Further, the applied art does not render obvious the features of claims 2-6 and 8-14 depending from claims 1 and 7. Withdrawal of the rejection of claims 1-14 under 35 U.S.C. §103 is respectfully solicited.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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